How to Use *Nature’s Notebook* in the field - Advanced Training

Maricopa Cooperative Extension Office, October 7-8, 2016

**Objectives for the Workshop:**

1. Define phenology and the importance of phenology to scientific research
2. Explore the phenology protocols and resources available through *Nature’s Notebook* for making observations
3. Demonstrate how to set up, and contribute to, group monitoring sites in *Nature’s Notebook*
4. Identify solutions for common barriers to participation and sustainability of a phenology program. Develop a plan for collecting regular observations at group monitoring sites
5. Establish a Phoenix Phenology Trail, with 3 group sites and multiple personal sites established for collecting regular phenology observational data.

**Friday - 9:00 am - 3:00 pm**

**9:00 am Introductions, advanced training outcomes, and workshop plan**

*USA National Phenology Network Workshop Facilitator:*

LoriAnne Barnett, Education Coordinator, USA-NPN. Contact info: [lorianne@usanpn.org](mailto:lorianne@usanpn.org)

*Workshop Hosts:*

Kelly Murray Young, Assistant Extension Agent, Agroecology, University of Arizona

Yvonne Cooper, Master Gardener Program Coordinator, University of Arizona

What do WE want to get out of the workshop? What do YOU want to get out of the workshop?

**9:30 am Lecture - *Nature’s Notebook*: a phenology monitoring for professional and citizen scientists**

This presentation showcases the USA National Phenology Network’s tools for engaging professional and citizen scientists in phenology monitoring training, data collection, data storage in the National Phenology Database (NPDb), as well as tools for data download and visualizations. It will explain the nuts and bolts of the *Nature’s Notebook* phenology observation program, including a look at the protocols, how to print paper datasheets and how to use the smartphone apps.

**10:15 am Activity – Introduction to Observing the Natural World (& Your Favorite Garden)**

In this outdoor activity, teams will investigate what it means to make observations of plants and animals and record their observations in a nature journal.

**11:00 am Break**
11:15 am Activity - Species and phenophase identification
In this outdoor activity, teams will use phenophase definition cards to find real examples of the phenophases on plants and animals. They can then share back with the larger group what they found, and discuss difficulties, etc.

12:00-12:30 pm Lunch Break

12:30 pm Activities - Stations. All participants will do each station. 20 minute intervals.
1. Phenology Observations
   In this outdoor activity, teams will use their paper datasheets to make observations on marked plants and select animals. Paper datasheets should be retained and brought back for an activity on Saturday.

2. Intensity Quizzes
   Participants will utilize the online Intensity Quizzes to delve deeper into our Phenology Protocols.

3. Botany Primer/Phenophase Primer/HTO/FAQs
   Review each resource and answer questions on the provided handout. Discussion to take place outside.

4. Visualization Tool Demo
   Explore tool online. View tutorial videos, answer questions on the provided handout.

2:10 pm Regroup

2:20 pm Activity - Form teams for tomorrow’s activities, Q&A
1. TEAM 1 - (Garden & Landscape Designers!) Establish a physical site, select plants and animals, and edit the Maricopa Cooperative Extension Site to add new plants

2. TEAM 2 - (Attention to Details!) Species and Phenophase ID - Design Phenophase Photo Guides for 1-2 species

3. TEAM 3 - (Big picture - Data Visualizers!) Data entry and analysis - Visualization tool outputs

4. TEAM 4 - (Educators and Engagers!) Program sustainability - Volunteer planning and engagement - create a video. Demo of other workshop videos.

Finish up by 3:00 pm

Saturday 9:00 am - 3:00 pm
9:00 am Warm up activity
9:30 am Review from yesterday, answer any outstanding questions

10:00 am Activity - Entering data into the Nature’s Notebook online interface
   Teams will use laptops to enter data from paper datasheets into the Nature’s Notebook system.
   LoriAnne will also demonstrate how to check and edit observations that have already been entered by hand. We will also view and learn about the smartphone apps.

10:45 am Break - 11:00 am Break into teams and begin working on assignments

12:00 - 12:30 pm Lunch Break

12:30 pm Activity – Pictionary game using questions on Botany Primer and HTO Handbook!

1:00 pm Team Meetings again, finalize assignments

1:30 pm Presentations

2:30 pm - Next Steps - Reflection, evaluation, and wrap-up

Finish up by 3pm